

## CLAIMS

We claim:

1. A method of managing a service, comprising the steps of:  
obtaining service quality requirements from a client;  
collecting quality data from a network; and  
comparing the collected quality data with the service quality requirements to  
5 determine if the service quality requirements are satisfied.
2. A method as recited in Claim 1, wherein the network comprises a  
plurality of network elements and the step of collecting quality data from the network  
comprises the steps of:  
querying at least one access network element for the quality data, the at least  
5 one access network element comprising those network elements of the plurality of  
network elements that are configured at an edge of the network and provide access to  
the network;  
saving the quality data in a repository;  
analyzing the quality data; and  
10 saving the analyzed quality data in the repository.
3. A method as recited in Claim 2, where the step of querying the at least  
one access network element for the quality data comprises the step of:  
querying at least one of the at least one access network element and a data  
collection agency for the quality data.
4. A method as recited in Claim 2, wherein the network comprises an  
asynchronous transfer mode (ATM) virtual private network (VPN), the VPN  
comprising at least one virtual channel (VC), wherein the at least one access network  
element comprises at least one network interface (NI), and wherein the step of  
5 analyzing the quality data comprises the step of:  
computing an availability measure for at least one of the VPN, the at least one  
VC, and the at least one NI.

5. A method as recited in Claim 4, wherein the availability measure of the VPN is based on the availability measure of the at least one VC.

6. A method as recited in Claim 4, wherein the step of analyzing the quality data further comprises the steps of:

computing a mean time to restore (MTTR) measure for the at least one of the VPN, the at least one VC, and the at least one NI; and

5 computing a mean time between service outages (MTBSO) measure for the at least one of the VPN, the at least one VC, and the at least one NI.

7. A method as recited in Claim 6, wherein the MTTR measure of the VPN and the MTBSO measure of the VPN are based on the MTTR measure of the at least one VC and the MTBSO measure of the at least one VC, respectively.

8. A method as recited in Claim 6, further comprising the steps of:  
receiving a service availability report request from the client for the at least one of the VPN, the at least one VC, and the at least one NI; and

5 sending the requested service availability report to the client for the at least one of the VPN, the at least one VC, and the at least one NI, the requested service availability report comprising at least one of the availability measure, the MTTR measure, and the MTBSO measure for the at least one of the VPN, the at least one VC, and the at least one NI.

9. A method as recited in Claim 6, further comprising the steps of:  
associating an availability threshold with at least one of the VPN, the at least one VC, and the at least one NI; and

5 comparing the availability measure for the at least one of the VPN, the at least one VC, and the at least one NI with the respectively associated availability threshold.

10. A method as recited in Claim 9, further comprising the steps of:  
receiving a service availability report request from the client for the at least one of the VPN, the at least one VC, and the at least one NI; and

5 sending the requested service availability report to the client for the at least  
one of the VPN, the at least one VC, and the at least one NI, the requested service  
availability report comprising at least one of the availability measure, the MTTR  
measure, and the MTSBO measure for the at least one of the VPN, the at least one  
VC, and the at least one NI and a comparison of the availability measure for the at  
least one of the VPN, the at least one VC, and the at least one NI with the availability  
10 threshold that is associated with the at least one of the VPN, the at least one VC, and  
the at least one NI.

11. A method as recited in Claim 2, wherein the network comprises an  
asynchronous transfer mode (ATM) virtual private network (VPN), the VPN  
comprising at least one virtual channel (VC), wherein the at least one access network  
element comprises at least one network interface (NI), and wherein the step of  
5 analyzing the quality data comprises the step of:

computing a bandwidth utilization measure for at least one of the VPN, the at  
least one VC, and the at least one NI.

12. A method as recited in Claim 11, wherein the bandwidth utilization  
measure of the VPN is based on the bandwidth utilization measure of the at least one  
VC.

13. A method as recited in Claim 11, further comprising the steps of:  
receiving a bandwidth utilization report request from the client for the at least  
one of the VPN, the at least one VC, and the at least one NI; and  
sending the requested bandwidth utilization report to the client for the at least  
5 one of the VPN, the at least one VC, and the at least one NI, the requested bandwidth  
utilization report comprising the bandwidth utilization measure for the at least one of  
the VPN, the at least one VC, and the at least one NI.

14. A method as recited in Claim 11, further comprising the steps of:  
associating an over utilization threshold and an under utilization threshold  
with the at least one of the VPN, the at least one VC, and the at least one NI; and

comparing the bandwidth utilization measure for the at least one of the VPN,  
5 the at least one VC, and the at least one NI with the respectively associated over  
utilization threshold and under utilization threshold.

15. A method as recited in Claim 14, further comprising the steps of:  
receiving a bandwidth utilization report request from the client for the at least  
one of the VPN, the at least one VC, and the at least one NI; and  
sending the requested bandwidth utilization report to the client for the at least  
5 one of the VPN, the at least one VC, and the at least one NI, the requested bandwidth  
utilization report comprising the bandwidth utilization measure for the at least one of  
the VPN, the at least one VC, and the at least one NI and a comparison of the  
bandwidth utilization measure for the at least one of the VPN, the at least one VC, and  
the at least one NI with the over utilization threshold and under utilization threshold  
10 that are associated with the at least one of the VPN, the at least one VC, and the at  
least one NI.

16. A method as recited in Claim 2, wherein the network comprises an  
asynchronous transfer mode (ATM) virtual private network (VPN), the VPN  
comprising at least one virtual channel (VC), wherein the at least one access network  
element comprises at least one network interface (NI), and wherein the step of  
5 analyzing the quality data comprises the step of:  
computing a delay measure for at least one of the VPN, the at least one VC,  
and the at least one NI.

17. A method as recited in Claim 16, wherein the delay measure of the  
VPN is based on the delay measure of the at least one VC.

18. A method as recited in Claim 16, wherein the step of computing the  
delay measure for the at least one of the VPN, the at least one VC, and the at least one  
NI comprises the steps of:  
computing a cell delay variation (CDV) measure for the at least one of the  
5 VPN, the at least one VC, and the at least one NI; and

computing a round trip transfer delay (RTTD) measure for the at least one of the VPN, the at least one VC, and the at least one NI.

19. A method as recited in Claim 18, further comprising the steps of:  
receiving a delay report request from the client for the at least one of the VPN, the at least one VC, and the at least one NI; and  
sending the requested delay report to the client for the at least one of the VPN,  
5 the at least one VC, and the at least one NI, the requested delay report comprising at least one of the CDV measure and the RTTD measure for the at least one of the VPN, the at least one VC, and the at least one NI.

20. A method as recited in Claim 2, wherein the network comprises an asynchronous transfer mode (ATM) virtual private network (VPN), the VPN comprising at least one virtual channel (VC), wherein the at least one access network element comprises at least one network interface (NI), and wherein the step of  
5 analyzing the quality data comprises the step of:  
computing an error measure for the at least one VC.

21. A method as recited in Claim 20, wherein the step of computing the error measure for the at least one VC comprises the steps of:  
determining at least one of a number of lost cells, a number of misinserted cells, a number of discarded cells, a number of errored cells, and a number of cells  
5 that violate the service quality requirements from the client for the at least one VC;  
and  
computing at least one of a cell loss ratio (CLR), a cell error ratio (CER), and a severely errored cell block ratio (SECBR) for the at least one VC.

22. A method as recited in Claim 21, further comprising the steps of:  
receiving an error report request from the client for the at least one VC; and  
sending the requested error report to the client for the at least one VC, the requested error report comprising at least one of the number of lost cells, the number  
5 of misinserted cells, the number of discarded cells, the number of errored cells, the

number of cells that violate the service quality requirements from the client, the CLR, the CER, and the SECBR for the at least one VC.

23. A method as recited in Claim 2, wherein the network comprises an asynchronous transfer mode (ATM) virtual private network (VPN), the VPN comprising at least one virtual channel (VC), wherein the at least one access network element comprises at least one network interface (NI), and wherein the step of  
5 analyzing the quality data comprises the step of:  
computing a fault measure for at least one of the VPN, the at least one VC, and the at least one NI.

24. A method as recited in Claim 23, wherein the step of computing the fault measure for the at least one of the VPN, the at least one VC, and the at least one NI comprises the step of:  
determining at least one of a number of errored seconds (ES), a number of  
5 severely errored seconds (SES), and a number of unavailable seconds (UAS) for the at least one of the VPN, the at least one VC, and the at least one NI.

25. A method as recited in Claim 24, further comprising the steps of:  
receiving a fault report request from the client for the at least one of the VPN, the at least one VC, and the at least one NI; and  
sending the requested fault report to the client for the at least one of the VPN,  
5 the at least one VC, and the at least one NI, the requested fault report comprising at least one of the number of errored seconds (ES), the number of severely errored seconds (SES), and the number of unavailable seconds (UAS) for the at least one of the VPN, the at least one VC, and the at least one NI.

26. A method as recited in Claim 2, wherein the network comprises an asynchronous transfer mode (ATM) virtual private network (VPN), the VPN comprising at least one virtual channel (VC), wherein the at least one access network element comprises at least one network interface (NI), and wherein the step of  
5 analyzing the quality data comprises the steps of:

defining a plurality of quality parameters for at least one of the VPN, the at least one VC, and the at least one NI;

obtaining a plurality of configured values, a respective one of which being associated with a respective one of the plurality of quality parameters;

10        computing a plurality of quality measures, a respective one of which being associated with the respective one of the plurality of quality parameters and the respective one of the plurality of configured values;

15        comparing the respective one of the plurality of quality measures with the respective one of the plurality of configured values to determine a plurality of differences therebetween;

      computing a plurality of numerical grades, a respective one of which being based on a respective one of the plurality of differences; and

      summing the plurality of numerical grades to determine a quantitative quality appraisal of the at least one of the VPN, the at least one VC, and the at least one NI.

27.     A method as recited in Claim 26, further comprising the step of:

      defining a plurality of threshold ranges, a respective one of which being associated with the respective one of the plurality of quality parameters and the respective one of the plurality of configured values; and

5        comparing the respective one of the plurality of differences with the respective one of the plurality of threshold ranges.

28.     A method as recited in Claim 27, wherein the step of computing the plurality of numerical grades, the respective one of which being based on the respective one of the plurality of differences comprises the step of:

5        computing the plurality of numerical grades, the respective one of which being based on the comparison of the respective one of the plurality of differences with the respective one of the plurality of threshold ranges.

29.     A method as recited in Claim 26, further comprising the steps of:

      obtaining a plurality of weight coefficients, a respective one of which being associated with the respective one of the plurality of quality parameters; and

5 multiplying the respective one of the plurality of numerical grades by the  
respective one of the plurality of weight coefficients prior to the step of summing the  
plurality of numerical grades to determine the quantitative quality appraisal of the at  
least one of the VPN, the at least one VC, and the at least one NI.

30. A method as recited in Claim 26, wherein the plurality of weight  
coefficients are obtained from the client.

31. A method as recited in Claim 26, further comprising the step of:  
determining a qualitative quality appraisal of the at least one of the VPN, the at  
least one VC, and the at least one NI based on the quantitative quality appraisal of the  
at least one of the VPN, the at least one VC, and the at least one NI.

32. A method as recited in Claim 26, wherein the quantitative quality  
appraisal of the VPN is based on the quantitative quality appraisal of the at least one  
VC.

33. A method as recited in Claim 26, wherein the plurality of configured  
values are obtained from the client.

34. A method as recited in Claim 26, wherein the plurality of quality  
parameters are associated with an ATM quality of service class selected from the  
group of service classes consisting of a constant bit rate (CBR) class, a real time  
variable bit rate (RT-VBR) class, a non-real time variable bit rate (NRT-VBR) class,  
5 an unspecified bit rate (UBR) class, and an available bit rate (ABR) class.

35. A method of managing a service agreement between a service provider  
on a network and a customer of the service provider, comprising the steps of:

generating at least one service template, a respective one of the at least one  
service template comprising:

5 a plurality of conformance categories; and  
a plurality of threshold ranges, a respective one of which being  
associated with a respective one of the plurality of conformance categories;



obtaining input from one of the service provider and the customer to select one of the at least one service template;

10 obtaining a plurality of thresholds, a respective one of which being associated with the respective one of the plurality of conformance categories and being within the respective one of the plurality of threshold ranges; and

associating the selected service template and the plurality of thresholds with a virtual private network (VPN) that is associated with the customer to generate the  
15 service agreement.

36. A method as recited in Claim 35, further comprising the steps of:  
collecting quality data that are associated with the plurality of conformance categories from the network;

processing the collected quality data; and  
5 comparing the processed quality data with the plurality of thresholds to determine whether the service provider is in compliance with the service agreement.

37. A method as recited in Claim 36, wherein the plurality of conformance categories comprise a plurality of customer traffic parameters, the method further comprising the steps of:

collecting quality data that are associated with the plurality of customer traffic  
5 parameters;

processing the collected quality data that are associated with the plurality of customer traffic parameters; and

comparing the collected quality data that are associated with the plurality of customer traffic parameters with the plurality of thresholds to determine whether the  
10 customer is in compliance with the service agreement.

38. A method as recited in Claim 37, wherein the network comprises an asynchronous transfer mode (ATM) network, the ATM network comprising a plurality of network elements including at least one access network element that is configured at an edge of the ATM network and provides access to the ATM network, the at least  
5 one access network element comprising at least one network interface (NI), wherein

the VPN comprises at least one virtual channel (VC), and wherein the step of processing the collected quality data comprises the step of:

processing the collected quality data for at least one of the VPN, the at least one VC, and the at least one NI.

39. A method as recited in Claim 38, further comprising the steps of:

receiving a service agreement conformance report request from at least one of the service provider and the customer for the at least one of the VPN, the at least one VC, and the at least one NI; and

5 sending the requested service agreement conformance report to the at least one of the service provider and the customer for the at least one of the VPN, the at least one VC, and the at least one NI, the service agreement conformance report comprising the comparison of the processed quality data and the respective threshold for at least one of the plurality of conformance categories for the at least one of the VPN, the at  
10 least one VC, and the at least one NI.

40. A method as recited in Claim 37, wherein the plurality of conformance categories further comprises at least one of an availability category, a delay category, an error category, a mean time to restore (MTTR) category, and a mean time between service outages (MTBSO) category, and wherein the plurality of customer traffic

5 parameters comprises at least one of peak cell rate (PCR), sustainable cell rate (SCR), cell delay variation tolerance (CDVT), generalized cell rate algorithm (GCRA), and usage parameter control (UPC) disagreement.

41. A method of configuring a network to carry traffic, comprising the steps of:

providing a plurality of traffic types;

5 assigning a respective business priority to a respective one of the plurality of traffic types;

assigning a respective traffic priority to the respective one of the plurality of traffic types based on the respective one of the plurality of traffic types and the respective business priority assigned thereto;

collecting quality data from the network;

- 10 receiving a proposed traffic description;  
correlating the proposed traffic description with at least one of the plurality of  
traffic types; and  
configuring the network based on the correlation of the proposed traffic  
description with the at least one of the plurality of traffic types, the business and  
15 traffic priorities that are assigned to the at least one of the plurality of traffic types, and  
the quality data collected from the network.

42. A method as recited in Claim 41, wherein the step of providing the  
plurality of traffic types comprises the step of:

- obtaining client input to provide the plurality of traffic types; and  
wherein the step of assigning the respective business priority to the respective one of  
5 the plurality of traffic types comprises the step of:  
obtaining client input to assign the respective business priority to the  
respective one of the plurality of traffic types.

43. A method as recited in Claim 41, wherein the step of configuring the  
network based on the correlation of the proposed traffic description with the at least  
one of the plurality of traffic types, the business and traffic priorities that are assigned  
to the at least one of the plurality of traffic types, and the quality data collected from  
5 the network comprises the steps of:

- presenting a client with a proposed network configuration based on the  
correlation of the proposed traffic description with the at least one of the plurality of  
traffic types, the business and traffic priorities that are assigned to the at least one of  
the plurality of traffic types, and the quality data collected from the network;  
10 obtaining input from the client whether to accept the proposed network  
configuration; and  
updating the network based on the proposed network configuration if the client  
accepts the proposed network configuration.

44. A method as recited in Claim 41, wherein the step of collecting quality  
data from the network comprises the step of:

collecting at least one of availability data and bandwidth utilization data from the network.

45. A method as recited in Claim 41, wherein the network comprises a plurality of network elements including at least one access network element that is configured at an edge of the network and provides access to the network, the method further comprising the steps of:

5 receiving a traffic report request from a client for one of the at least one access network element; and

10 sending the requested traffic report request to the client for the one of the at least one access network element, the requested traffic report request comprising an indication of traffic that is allocated to the one of the at least one access network element.

46. A system for managing a service, comprising:

means for obtaining service quality requirements from a client;

means for collecting quality data from a network; and

5 means for comparing the collected quality data with the service quality requirements to determine if the service quality requirements are satisfied.

47. A system as recited in Claim 46, wherein the network comprises a plurality of network elements and the means for collecting quality data from the network comprises:

5 means for querying at least one access network element for the quality data, the at least one access network element comprising those network elements of the plurality of network elements that are configured at an edge of the network and provide access to the network;

means for saving the quality data in a repository;

means for analyzing the quality data; and

10 means for saving the analyzed quality data in the repository.

48. A system as recited in Claim 47, where the means for querying the at least one access network element for the quality data comprises:

means for querying at least one of the at least one access network element and a data collection agency for the quality data.

49. A system as recited in Claim 47, wherein the network comprises an asynchronous transfer mode (ATM) virtual private network (VPN), the VPN comprising at least one virtual channel (VC), wherein the at least one access network element comprises at least one network interface (NI), and wherein the means for
- 5 analyzing the quality data comprises:

means for computing an availability measure for at least one of the VPN, the at least one VC, and the at least one NI.

50. A system as recited in Claim 49, wherein the availability measure of the VPN is based on the availability measure of the at least one VC.

51. A system as recited in Claim 49, wherein the means for analyzing the quality data further comprises:

means for computing a mean time to restore (MTTR) measure for the at least one of the VPN, the at least one VC, and the at least one NI; and

- 5 means for computing a mean time between service outages (MTBSO) measure for the at least one of the VPN, the at least one VC, and the at least one NI.

52. A system as recited in Claim 51, wherein the MTTR measure of the VPN and the MTBSO measure of the VPN are based on the MTTR measure of the at least one VC and the MTBSO measure of the at least one VC, respectively.

53. A system as recited in Claim 51, further comprising:

means for receiving a service availability report request from the client for the at least one of the VPN, the at least one VC, and the at least one NI; and

- 5 means for sending the requested service availability report to the client for the at least one of the VPN, the at least one VC, and the at least one NI, the requested service availability report comprising at least one of the availability measure, the MTTR measure, and the MTBSO measure for the at least one of the VPN, the at least one VC, and the at least one NI.

54. A system as recited in Claim 51, further comprising:  
means for associating an availability threshold with at least one of the VPN,  
the at least one VC, and the at least one NI; and  
means for comparing the availability measure for the at least one of the VPN,  
5 the at least one VC, and the at least one NI with the respectively associated  
availability threshold.

55. A system as recited in Claim 54, further comprising:  
means for receiving a service availability report request from the client for the  
at least one of the VPN, the at least one VC, and the at least one NI; and  
means for sending the requested service availability report to the client for the  
5 at least one of the VPN, the at least one VC, and the at least one NI, the requested  
service availability report comprising at least one of the availability measure, the  
MTTR measure, and the MTSBO measure for the at least one of the VPN, the at least  
one VC, and the at least one NI and a comparison of the availability measure for the at  
least one of the VPN, the at least one VC, and the at least one NI with the availability  
10 threshold that is associated with the at least one of the VPN, the at least one VC, and  
the at least one NI.

56. A system as recited in Claim 47, wherein the network comprises an  
asynchronous transfer mode (ATM) virtual private network (VPN), the VPN  
comprising at least one virtual channel (VC), wherein the at least one access network  
element comprises at least one network interface (NI), and wherein the means for  
5 analyzing the quality data comprises:  
means for computing a bandwidth utilization measure for at least one of the  
VPN, the at least one VC, and the at least one NI.

57. A system as recited in Claim 56, wherein the bandwidth utilization  
measure of the VPN is based on the bandwidth utilization measure of the at least one  
VC.

58. A system as recited in Claim 56, further comprising:

means for receiving a bandwidth utilization report request from the client for the at least one of the VPN, the at least one VC, and the at least one NI; and

means for sending the requested bandwidth utilization report to the client for  
5 the at least one of the VPN, the at least one VC, and the at least one NI, the requested bandwidth utilization report comprising the bandwidth utilization measure for the at least one of the VPN, the at least one VC, and the at least one NI.

59. A system as recited in Claim 56, further comprising:

means for associating an over utilization threshold and an under utilization threshold with the at least one of the VPN, the at least one VC, and the at least one NI; and

5 means for comparing the bandwidth utilization measure for the at least one of the VPN, the at least one VC, and the at least one NI with the respectively associated over utilization threshold and under utilization threshold.

60. A system as recited in Claim 59, further comprising:

means for receiving a bandwidth utilization report request from the client for the at least one of the VPN, the at least one VC, and the at least one NI; and

means for sending the requested bandwidth utilization report to the client for  
5 the at least one of the VPN, the at least one VC, and the at least one NI, the requested bandwidth utilization report comprising the bandwidth utilization measure for the at least one of the VPN, the at least one VC, and the at least one NI and a comparison of the bandwidth utilization measure for the at least one of the VPN, the at least one VC, and the at least one NI with the over utilization threshold and under utilization  
10 threshold that are associated with the at least one of the VPN, the at least one VC, and the at least one NI.

61. A system as recited in Claim 47, wherein the network comprises an asynchronous transfer mode (ATM) virtual private network (VPN), the VPN comprising at least one virtual channel (VC), wherein the at least one access network element comprises at least one network interface (NI), and wherein the means for  
5 analyzing the quality data comprises:

means for computing a delay measure for at least one of the VPN, the at least one VC, and the at least one NI.

62. A system as recited in Claim 61, wherein the delay measure of the VPN is based on the delay measure of the at least one VC.

63. A system as recited in Claim 61, wherein the means for computing the delay measure for the at least one of the VPN, the at least one VC, and the at least one NI comprises:

means for computing a cell delay variation (CDV) measure for the at least one  
5 of the VPN, the at least one VC, and the at least one NI; and

means for computing a round trip transfer delay (RTTD) measure for the at least one of the VPN, the at least one VC, and the at least one NI.

64. A system as recited in Claim 63, further comprising:

means for receiving a delay report request from the client for the at least one of the VPN, the at least one VC, and the at least one NI; and

means for sending the requested delay report to the client for the at least one of  
5 the VPN, the at least one VC, and the at least one NI, the requested delay report comprising at least one of the CDV measure and the RTTD measure for the at least one of the VPN, the at least one VC, and the at least one NI.

65. A system as recited in Claim 47, wherein the network comprises an asynchronous transfer mode (ATM) virtual private network (VPN), the VPN comprising at least one virtual channel (VC), wherein the at least one access network element comprises at least one network interface (NI), and wherein the means for  
5 analyzing the quality data comprises:

means for computing an error measure for the at least one VC.

66. A system as recited in Claim 65, wherein the means for computing the error measure for the at least one VC comprises:

means for determining at least one of a number of lost cells, a number of misinserted cells, a number of discarded cells, a number of errored cells, and a number



- 5 of cells that violate the service quality requirements from the client for the at least one VC; and

means for computing at least one of a cell loss ratio (CLR), a cell error ratio (CER), and a severely errored cell block ratio (SECBR) for the at least one VC.

67. A system as recited in Claim 66, further comprising:

means for receiving an error report request from the client for the at least one VC; and

- 5 means for sending the requested error report to the client for the at least one VC, the requested error report comprising at least one of the number of lost cells, the number of misinserted cells, the number of discarded cells, the number of errored cells, the number of cells that violate the service quality requirements from the client, the CLR, the CER, and the SECBR for the at least one VC.

68. A system as recited in Claim 47, wherein the network comprises an asynchronous transfer mode (ATM) virtual private network (VPN), the VPN comprising at least one virtual channel (VC), wherein the at least one access network element comprises at least one network interface (NI), and wherein the means for  
5 analyzing the quality data comprises:

means for computing a fault measure for at least one of the VPN, the at least one VC, and the at least one NI.

69. A system as recited in Claim 68, wherein the means for computing the fault measure for the at least one of the VPN, the at least one VC, and the at least one NI comprises:

- 5 means for determining at least one of a number of errored seconds (ES), a number of severely errored seconds (SES), and a number of unavailable seconds (UAS) for the at least one of the VPN, the at least one VC, and the at least one NI.

70. A system as recited in Claim 69, further comprising:

means for receiving a fault report request from the client for the at least one of the VPN, the at least one VC, and the at least one NI; and

means for sending the requested fault report to the client for the at least one of  
5 the VPN, the at least one VC, and the at least one NI, the requested fault report  
comprising at least one of the number of errored seconds (ES), the number of severely  
errored seconds (SES), and the number of unavailable seconds (UAS) for the at least  
one of the VPN, the at least one VC, and the at least one NI.

71. A system as recited in Claim 47, wherein the network comprises an  
asynchronous transfer mode (ATM) virtual private network (VPN), the VPN  
comprising at least one virtual channel (VC), wherein the at least one access network  
element comprises at least one network interface (NI), and wherein the means for  
5 analyzing the quality data comprises:

means for defining a plurality of quality parameters for at least one of the  
VPN, the at least one VC, and the at least one NI;

means for obtaining a plurality of configured values, a respective one of which  
being associated with a respective one of the plurality of quality parameters;

10 means for computing a plurality of quality measures, a respective one of which  
being associated with the respective one of the plurality of quality parameters and the  
respective one of the plurality of configured values;

means for comparing the respective one of the plurality of quality measures  
with the respective one of the plurality of configured values to determine a plurality of  
15 differences therebetween;

means for computing a plurality of numerical grades, a respective one of  
which being based on a respective one of the plurality of differences; and

means for summing the plurality of numerical grades to determine a  
quantitative quality appraisal of the at least one of the VPN, the at least one VC, and  
20 the at least one NI.

72. A system as recited in Claim 71, further comprising:

means for defining a plurality of threshold ranges, a respective one of which  
being associated with the respective one of the plurality of quality parameters and the  
respective one of the plurality of configured values; and

5 means for comparing the respective one of the plurality of differences with the  
respective one of the plurality of threshold ranges.

73. A system as recited in Claim 72, wherein the means for computing the plurality of numerical grades, the respective one of which being based on the respective one of the plurality of differences comprises:

means for computing the plurality of numerical grades, the respective one of  
5 which being based on the comparison of the respective one of the plurality of differences with the respective one of the plurality of threshold ranges.

74. A system as recited in Claim 71, further comprising:

means for obtaining a plurality of weight coefficients, a respective one of  
which being associated with the respective one of the plurality of quality parameters;  
and

10 means for multiplying the respective one of the plurality of numerical grades by the respective one of the plurality of weight coefficients, the means for summing the plurality of numerical grades to determine the quantitative quality appraisal of the at least one of the VPN, the at least one VC, and the at least one NI being responsive to the means for multiplying the respective one of the plurality of numerical grades by  
10 the respective one of the plurality of weight coefficients.

75. A system as recited in Claim 71, wherein the plurality of weight coefficients are obtained from the client.

76. A system as recited in Claim 71, further comprising:

means for determining a qualitative quality appraisal of the at least one of the VPN, the at least one VC, and the at least one NI based on the quantitative quality appraisal of the at least one of the VPN, the at least one VC, and the at least one NI.

77. A system as recited in Claim 71, wherein the quantitative quality appraisal of the VPN is based on the quantitative quality appraisal of the at least one VC.

78. A system as recited in Claim 71, wherein the plurality of configured values are obtained from the client.

79. A system as recited in Claim 71, wherein the plurality of quality parameters are associated with an ATM quality of service class selected from the group of service classes consisting of a constant bit rate (CBR) class, a real time variable bit rate (RT-VBR) class, a non-real time variable bit rate (NRT-VBR) class,  
5 an unspecified bit rate (UBR) class, and an available bit rate (ABR) class.

80. A system for managing a service agreement between a service provider on a network and a customer of the service provider, comprising:

means for generating at least one service template, a respective one of the at least one service template comprising:

5 a plurality of conformance categories; and

a plurality of threshold ranges, a respective one of which being associated with a respective one of the plurality of conformance categories;

means for obtaining input from one of the service provider and the customer to select one of the at least one service template;

10 means for obtaining a plurality of thresholds, a respective one of which being associated with the respective one of the plurality of conformance categories and being within the respective one of the plurality of threshold ranges; and

means for associating the selected service template and the plurality of thresholds with a virtual private network (VPN) that is associated with the customer to  
15 generate the service agreement.

81. A system as recited in Claim 80, further comprising:

means for collecting quality data that are associated with the plurality of conformance categories from the network;

means for processing the collected quality data; and

5 means for comparing the processed quality data with the plurality of thresholds to determine whether the service provider is in compliance with the service agreement.

82. A system as recited in Claim 81, wherein the plurality of conformance categories comprise a plurality of customer traffic parameters, the system further comprising:

means for collecting quality data that are associated with the plurality of customer traffic parameters;

means for processing the collected quality data that are associated with the plurality of customer traffic parameters; and

means for comparing the collected quality data that are associated with the plurality of customer traffic parameters with the plurality of thresholds to determine whether the customer is in compliance with the service agreement.

83. A system as recited in Claim 82, wherein the network comprises an asynchronous transfer mode (ATM) network, the ATM network comprising a plurality of network elements including at least one access network element that is configured at an edge of the ATM network and provides access to the ATM network, the at least one access network element comprising at least one network interface (NI), wherein the VPN comprises at least one virtual channel (VC), and wherein the means for processing the collected quality data comprises:

means for processing the collected quality data for at least one of the VPN, the at least one VC, and the at least one NI.

84. A system as recited in Claim 83, further comprising:

means for receiving a service agreement conformance report request from at least one of the service provider and the customer for the at least one of the VPN, the at least one VC, and the at least one NI; and

means for sending the requested service agreement conformance report to the at least one of the service provider and the customer for the at least one of the VPN, the at least one VC, and the at least one NI, the service agreement conformance report comprising the comparison of the processed quality data and the respective threshold for at least one of the plurality of conformance categories for the at least one of the VPN, the at least one VC, and the at least one NI.

85. A system as recited in Claim 82, wherein the plurality of conformance categories further comprises at least one of an availability category, a delay category, an error category, a mean time to restore (MTTR) category, and a mean time between service outages (MTBSO) category, and wherein the plurality of customer traffic  
5 parameters comprises at least one of peak cell rate (PCR), sustainable cell rate (SCR), cell delay variation tolerance (CDVT), generalized cell rate algorithm (GCRA), and usage parameter control (UPC) disagreement.

86. A system for configuring a network to carry traffic, comprising:  
means for providing a plurality of traffic types;  
means for assigning a respective business priority to a respective one of the plurality of traffic types;  
5 means for assigning a respective traffic priority to the respective one of the plurality of traffic types based on the respective one of the plurality of traffic types and the respective business priority assigned thereto;  
means for collecting quality data from the network;  
means for receiving a proposed traffic description;  
10 means for correlating the proposed traffic description with at least one of the plurality of traffic types; and  
means for configuring the network based on the correlation of the proposed traffic description with the at least one of the plurality of traffic types, the business and traffic priorities that are assigned to the at least one of the plurality of traffic types,  
15 and the quality data collected from the network.

87. A system as recited in Claim 86, wherein the means for providing the plurality of traffic types comprises:  
means for obtaining client input to provide the plurality of traffic types; and  
wherein the means for assigning the respective business priority to the respective one  
5 of the plurality of traffic types comprises:  
means for obtaining client input to assign the respective business priority to the respective one of the plurality of traffic types.

88. A system as recited in Claim 86, wherein the means for configuring the network based on the correlation of the proposed traffic description with the at least one of the plurality of traffic types, the business and traffic priorities that are assigned to the at least one of the plurality of traffic types, and the quality data collected from the network comprises:

means for presenting a client with a proposed network configuration based on the correlation of the proposed traffic description with the at least one of the plurality of traffic types, the business and traffic priorities that are assigned to the at least one of the plurality of traffic types, and the quality data collected from the network;

means for obtaining input from the client whether to accept the proposed network configuration; and

means for updating the network based on the proposed network configuration if the client accepts the proposed network configuration.

89. A system as recited in Claim 86, wherein the means for collecting quality data from the network comprises:

means for collecting at least one of availability data and bandwidth utilization data from the network.

90. A system as recited in Claim 86, wherein the network comprises a plurality of network elements including at least one access network element that is configured at an edge of the network and provides access to the network, the system further comprising:

means for receiving a traffic report request from a client for one of the at least one access network element; and

means for sending the requested traffic report request to the client for the one of the at least one access network element, the requested traffic report request comprising an indication of traffic that is allocated to the one of the at least one access network element.

91. A computer program product for managing a service, comprising:

a computer readable storage medium having computer readable program code embodied therein, the computer readable program code comprising:

computer readable program code for obtaining service quality  
5 requirements from a client;

computer readable program code for collecting quality data from a  
network; and

computer readable program code for comparing the collected quality  
data with the service quality requirements to determine if the service quality  
10 requirements are satisfied.

92. A computer program product as recited in Claim 91, wherein the  
network comprises a plurality of network elements and the computer readable  
program code for collecting quality data from the network comprises:

computer readable program code for querying at least one access network  
5 element for the quality data, the at least one access network element comprising those  
network elements of the plurality of network elements that are configured at an edge  
of the network and provide access to the network;

computer readable program code for saving the quality data in a repository;

computer readable program code for analyzing the quality data; and

10 computer readable program code for saving the analyzed quality data in the  
repository.

93. A computer program product as recited in Claim 92, where the  
computer readable program code for querying the at least one access network element  
for the quality data comprises:

computer readable program code for querying at least one of the at least one  
5 access network element and a data collection agency for the quality data.

94. A computer program product as recited in Claim 92, wherein the  
network comprises an asynchronous transfer mode (ATM) virtual private network  
(VPN), the VPN comprising at least one virtual channel (VC), wherein the at least one  
access network element comprises at least one network interface (NI), and wherein the  
5 computer readable program code for analyzing the quality data comprises:

computer readable program code for computing an availability measure for at  
least one of the VPN, the at least one VC, and the at least one NI.



95. A computer program product as recited in Claim 94, wherein the availability measure of the VPN is based on the availability measure of the at least one VC.

96. A computer program product as recited in Claim 94, wherein the computer readable program code for analyzing the quality data further comprises:

computer readable program code for computing a mean time to restore (MTTR) measure for the at least one of the VPN, the at least one VC, and the at least one NI; and

computer readable program code for computing a mean time between service outages (MTBSO) measure for the at least one of the VPN, the at least one VC, and the at least one NI.

97. A computer program product as recited in Claim 96, wherein the MTTR measure of the VPN and the MTBSO measure of the VPN are based on the MTTR measure of the at least one VC and the MTBSO measure of the at least one VC, respectively.

98. A computer program product as recited in Claim 96, further comprising:

computer readable program code for receiving a service availability report request from the client for the at least one of the VPN, the at least one VC, and the at least one NI; and

computer readable program code for sending the requested service availability report to the client for the at least one of the VPN, the at least one VC, and the at least one NI, the requested service availability report comprising at least one of the availability measure, the MTTR measure, and the MTBSO measure for the at least one of the VPN, the at least one VC, and the at least one NI.

99. A computer program product as recited in Claim 96, further comprising:

computer readable program code for associating an availability threshold with at least one of the VPN, the at least one VC, and the at least one NI; and

- 5 computer readable program code for comparing the availability measure for the at least one of the VPN, the at least one VC, and the at least one NI with the respectively associated availability threshold.

100. A computer program product as recited in Claim 99, further comprising:

computer readable program code for receiving a service availability report request from the client for the at least one of the VPN, the at least one VC, and the at least one NI; and

- 5 computer readable program code for sending the requested service availability report to the client for the at least one of the VPN, the at least one VC, and the at least one NI, the requested service availability report comprising at least one of the availability measure, the MTTR measure, and the MTSBO measure for the at least one of the VPN, the at least one VC, and the at least one NI and a comparison of the
- 10 availability measure for the at least one of the VPN, the at least one VC, and the at least one NI with the availability threshold that is associated with the at least one of the VPN, the at least one VC, and the at least one NI.

101. A computer program product as recited in Claim 92, wherein the network comprises an asynchronous transfer mode (ATM) virtual private network (VPN), the VPN comprising at least one virtual channel (VC), wherein the at least one access network element comprises at least one network interface (NI), and wherein the

5 computer readable program code for analyzing the quality data comprises:

computer readable program code for computing a bandwidth utilization measure for at least one of the VPN, the at least one VC, and the at least one NI.

102. A computer program product as recited in Claim 101, wherein the bandwidth utilization measure of the VPN is based on the bandwidth utilization measure of the at least one VC.

103. A computer program product as recited in Claim 101, further comprising:

computer readable program code for receiving a bandwidth utilization report request from the client for the at least one of the VPN, the at least one VC, and the at least one NI; and

computer readable program code for sending the requested bandwidth utilization report to the client for the at least one of the VPN, the at least one VC, and the at least one NI, the requested bandwidth utilization report comprising the bandwidth utilization measure for the at least one of the VPN, the at least one VC, and the at least one NI.

104. A computer program product as recited in Claim 101, further comprising:

computer readable program code for associating an over utilization threshold and an under utilization threshold with the at least one of the VPN, the at least one VC, and the at least one NI; and

computer readable program code for comparing the bandwidth utilization measure for the at least one of the VPN, the at least one VC, and the at least one NI with the respectively associated over utilization threshold and under utilization threshold.

105. A computer program product as recited in Claim 104, further comprising:

computer readable program code for receiving a bandwidth utilization report request from the client for the at least one of the VPN, the at least one VC, and the at least one NI; and

computer readable program code for sending the requested bandwidth utilization report to the client for the at least one of the VPN, the at least one VC, and the at least one NI, the requested bandwidth utilization report comprising the bandwidth utilization measure for the at least one of the VPN, the at least one VC, and the at least one NI and a comparison of the bandwidth utilization measure for the at least one of the VPN, the at least one VC, and the at least one NI with the over

utilization threshold and under utilization threshold that are associated with the at least one of the VPN, the at least one VC, and the at least one NI.

106. A computer program product as recited in Claim 92, wherein the network comprises an asynchronous transfer mode (ATM) virtual private network (VPN), the VPN comprising at least one virtual channel (VC), wherein the at least one access network element comprises at least one network interface (NI), and wherein the computer readable program code for analyzing the quality data comprises:

computer readable program code for computing a delay measure for at least one of the VPN, the at least one VC, and the at least one NI.

107. A computer program product as recited in Claim 106, wherein the delay measure of the VPN is based on the delay measure of the at least one VC.

108. A computer program product as recited in Claim 106, wherein the computer readable program code for computing the delay measure for the at least one of the VPN, the at least one VC, and the at least one NI comprises:

computer readable program code for computing a cell delay variation (CDV) measure for the at least one of the VPN, the at least one VC, and the at least one NI; and

computer readable program code for computing a round trip transfer delay (RTTD) measure for the at least one of the VPN, the at least one VC, and the at least one NI.

109. A computer program product as recited in Claim 108, further comprising:

computer readable program code for receiving a delay report request from the client for the at least one of the VPN, the at least one VC, and the at least one NI; and

computer readable program code for sending the requested delay report to the client for the at least one of the VPN, the at least one VC, and the at least one NI, the requested delay report comprising at least one of the CDV measure and the RTTD measure for the at least one of the VPN, the at least one VC, and the at least one NI.

110. A computer program product as recited in Claim 92, wherein the network comprises an asynchronous transfer mode (ATM) virtual private network (VPN), the VPN comprising at least one virtual channel (VC), wherein the at least one access network element comprises at least one network interface (NI), and wherein the computer readable program code for analyzing the quality data comprises:

computer readable program code for computing an error measure for the at least one VC.

111. A computer program product as recited in Claim 110, wherein the computer readable program code for computing the error measure for the at least one VC comprises:

computer readable program code for determining at least one of a number of lost cells, a number of misinserted cells, a number of discarded cells, a number of errored cells, and a number of cells that violate the service quality requirements from the client for the at least one VC; and

computer readable program code for computing at least one of a cell loss ratio (CLR), a cell error ratio (CER), and a severely errored cell block ratio (SECBR) for the at least one VC.

112. A computer program product as recited in Claim 111, further comprising:

computer readable program code for receiving an error report request from the client for the at least one VC; and

computer readable program code for sending the requested error report to the client for the at least one VC, the requested error report comprising at least one of the number of lost cells, the number of misinserted cells, the number of discarded cells, the number of errored cells, the number of cells that violate the service quality requirements from the client, the CLR, the CER, and the SECBR for the at least one VC.

113. A computer program product as recited in Claim 92, wherein the network comprises an asynchronous transfer mode (ATM) virtual private network (VPN), the VPN comprising at least one virtual channel (VC), wherein the at least one

access network element comprises at least one network interface (NI), and wherein the  
5 computer readable program code for analyzing the quality data comprises:

computer readable program code for computing a fault measure for at least one  
of the VPN, the at least one VC, and the at least one NI.

114. A computer program product as recited in Claim 113, wherein the  
computer readable program code for computing the fault measure for the at least one  
of the VPN, the at least one VC, and the at least one NI comprises:

computer readable program code for determining at least one of a number of  
5 errored seconds (ES), a number of severely errored seconds (SES), and a number of  
unavailable seconds (UAS) for the at least one of the VPN, the at least one VC, and  
the at least one NI.

115. A computer program product as recited in Claim 114, further  
comprising:

computer readable program code for receiving a fault report request from the  
client for the at least one of the VPN, the at least one VC, and the at least one NI; and

5 computer readable program code for sending the requested fault report to the  
client for the at least one of the VPN, the at least one VC, and the at least one NI, the  
requested fault report comprising at least one of the number of errored seconds (ES),  
the number of severely errored seconds (SES), and the number of unavailable seconds  
(UAS) for the at least one of the VPN, the at least one VC, and the at least one NI.

116. A computer program product as recited in Claim 92, wherein the  
network comprises an asynchronous transfer mode (ATM) virtual private network  
(VPN), the VPN comprising at least one virtual channel (VC), wherein the at least one  
access network element comprises at least one network interface (NI), and wherein the  
5 computer readable program code for analyzing the quality data comprises:

computer readable program code for defining a plurality of quality parameters  
for at least one of the VPN, the at least one VC, and the at least one NI;

computer readable program code for obtaining a plurality of configured values,  
a respective one of which being associated with a respective one of the plurality of  
10 quality parameters;

computer readable program code for computing a plurality of quality measures, a respective one of which being associated with the respective one of the plurality of quality parameters and the respective one of the plurality of configured values;

15 computer readable program code for comparing the respective one of the plurality of quality measures with the respective one of the plurality of configured values to determine a plurality of differences therebetween;

computer readable program code for computing a plurality of numerical grades, a respective one of which being based on a respective one of the plurality of differences; and

20 computer readable program code for summing the plurality of numerical grades to determine a quantitative quality appraisal of the at least one of the VPN, the at least one VC, and the at least one NI.

117. A computer program product as recited in Claim 116, further comprising:

computer readable program code for defining a plurality of threshold ranges, a respective one of which being associated with the respective one of the plurality of quality parameters and the respective one of the plurality of configured values; and

5 computer readable program code for comparing the respective one of the plurality of differences with the respective one of the plurality of threshold ranges.

118. A computer program product as recited in Claim 117, wherein the computer readable program code for computing the plurality of numerical grades, the respective one of which being based on the respective one of the plurality of differences comprises:

5 computer readable program code for computing the plurality of numerical grades, the respective one of which being based on the comparison of the respective one of the plurality of differences with the respective one of the plurality of threshold ranges.

119. A computer program product as recited in Claim 116, further comprising:

computer readable program code for obtaining a plurality of weight coefficients, a respective one of which being associated with the respective one of the plurality of quality parameters; and

computer readable program code for multiplying the respective one of the plurality of numerical grades by the respective one of the plurality of weight coefficients, the computer readable program code for summing the plurality of numerical grades to determine the quantitative quality appraisal of the at least one of the VPN, the at least one VC, and the at least one NI being responsive to the computer readable program code for multiplying the respective one of the plurality of numerical grades by the respective one of the plurality of weight coefficients.

120. A computer program product as recited in Claim 116, wherein the plurality of weight coefficients are obtained from the client.

121. A computer program product as recited in Claim 116, further comprising:

computer readable program code for determining a qualitative quality appraisal of the at least one of the VPN, the at least one VC, and the at least one NI based on the quantitative quality appraisal of the at least one of the VPN, the at least one VC, and the at least one NI.

122. A computer program product as recited in Claim 116, wherein the quantitative quality appraisal of the VPN is based on the quantitative quality appraisal of the at least one VC.

123. A computer program product as recited in Claim 116, wherein the plurality of configured values are obtained from the client.

124. A computer program product as recited in Claim 116, wherein the plurality of quality parameters are associated with an ATM quality of service class selected from the group of service classes consisting of a constant bit rate (CBR) class, a real time variable bit rate (RT-VBR) class, a non-real time variable bit rate



- 5 (NRT-VBR) class, an unspecified bit rate (UBR) class, and an available bit rate (ABR) class.

125. A computer program product for managing a service agreement between a service provider on a network and a customer of the service provider, comprising:

- 5 a computer readable storage medium having computer readable program code embodied therein, the computer readable program code comprising:
- computer readable program code for generating at least one service template, a respective one of the at least one service template comprising:
    - a plurality of conformance categories; and
    - a plurality of threshold ranges, a respective one of which being
  - 10 associated with a respective one of the plurality of conformance categories;
    - computer readable program code for obtaining input from one of the service provider and the customer to select one of the at least one service template;
    - computer readable program code for obtaining a plurality of thresholds,
  - 15 a respective one of which being associated with the respective one of the plurality of conformance categories and being within the respective one of the plurality of threshold ranges; and
    - computer readable program code for associating the selected service template and the plurality of thresholds with a virtual private network (VPN) that is associated with the customer to generate the service agreement.

126. A computer program product as recited in Claim 125, further comprising:

- computer readable program code for collecting quality data that are associated with the plurality of conformance categories from the network;
- 5 computer readable program code for processing the collected quality data; and
- computer readable program code for comparing the processed quality data with the plurality of thresholds to determine whether the service provider is in compliance with the service agreement.

127. A computer program product as recited in Claim 126, wherein the plurality of conformance categories comprise a plurality of customer traffic parameters, the computer program product further comprising:

computer readable program code for collecting quality data that are associated with the plurality of customer traffic parameters;

computer readable program code for processing the collected quality data that are associated with the plurality of customer traffic parameters; and

computer readable program code for comparing the collected quality data that are associated with the plurality of customer traffic parameters with the plurality of thresholds to determine whether the customer is in compliance with the service agreement.

128. A computer program product as recited in Claim 127, wherein the network comprises an asynchronous transfer mode (ATM) network, the ATM network comprising a plurality of network elements including at least one access network element that is configured at an edge of the ATM network and provides access to the ATM network, the at least one access network element comprising at least one network interface (NI), wherein the VPN comprises at least one virtual channel (VC), and wherein the computer readable program code for processing the collected quality data comprises:

computer readable program code for processing the collected quality data for at least one of the VPN, the at least one VC, and the at least one NI.

129. A computer program product as recited in Claim 128, further comprising:

computer readable program code for receiving a service agreement conformance report request from at least one of the service provider and the customer for the at least one of the VPN, the at least one VC, and the at least one NI; and

computer readable program code for sending the requested service agreement conformance report to the at least one of the service provider and the customer for the at least one of the VPN, the at least one VC, and the at least one NI, the service agreement conformance report comprising the comparison of the processed quality

- 10 data and the respective threshold for at least one of the plurality of conformance categories for the at least one of the VPN, the at least one VC, and the at least one NI.

130. A computer program product as recited in Claim 127, wherein the plurality of conformance categories further comprises at least one of an availability category, a delay category, an error category, a mean time to restore (MTTR) category, and a mean time between service outages (MTBSO) category, and wherein the
- 5 plurality of customer traffic parameters comprises at least one of peak cell rate (PCR), sustainable cell rate (SCR), cell delay variation tolerance (CDVT), generalized cell rate algorithm (GCRA), and usage parameter control (UPC) disagreement.

131. A computer program product for configuring a network to carry traffic, comprising:

a computer readable storage medium having computer readable program code embodied therein, the computer readable program code comprising:

- 5 computer readable program code for providing a plurality of traffic types;
- computer readable program code for assigning a respective business priority to a respective one of the plurality of traffic types;
- computer readable program code for assigning a respective traffic
- 10 priority to the respective one of the plurality of traffic types based on the respective one of the plurality of traffic types and the respective business priority assigned thereto;
- computer readable program code for collecting quality data from the network;
- 15 computer readable program code for receiving a proposed traffic description;
- computer readable program code for correlating the proposed traffic description with at least one of the plurality of traffic types; and
- 20 computer readable program code for configuring the network based on the correlation of the proposed traffic description with the at least one of the plurality of traffic types, the business and traffic priorities that are assigned to the at least one of the plurality of traffic types, and the quality data collected from the network.

132. A computer program product as recited in Claim 131, wherein the computer readable program code for providing the plurality of traffic types comprises:

computer readable program code for obtaining client input to provide the plurality of traffic types; and

5 wherein the computer readable program code for assigning the respective business priority to the respective one of the plurality of traffic types comprises:

computer readable program code for obtaining client input to assign the respective business priority to the respective one of the plurality of traffic types.

133. A computer program product as recited in Claim 131, wherein the computer readable program code for configuring the network based on the correlation of the proposed traffic description with the at least one of the plurality of traffic types, the business and traffic priorities that are assigned to the at least one of the plurality of traffic types, and the quality data collected from the network comprises:

5 computer readable program code for presenting a client with a proposed network configuration based on the correlation of the proposed traffic description with the at least one of the plurality of traffic types, the business and traffic priorities that are assigned to the at least one of the plurality of traffic types, and the quality data  
10 collected from the network;

computer readable program code for obtaining input from the client whether to accept the proposed network configuration; and

computer readable program code for updating the network based on the proposed network configuration if the client accepts the proposed network  
15 configuration.

134. A computer program product as recited in Claim 131, wherein the computer readable program code for collecting quality data from the network comprises:

5 computer readable program code for collecting at least one of availability data and bandwidth utilization data from the network.

135. A computer program product as recited in Claim 131, wherein the network comprises a plurality of network elements including at least one access network element that is configured at an edge of the network and provides access to the network, the computer program product further comprising:

5 computer readable program code for receiving a traffic report request from a client for one of the at least one access network element; and

computer readable program code for sending the requested traffic report request to the client for the one of the at least one access network element, the requested traffic report request comprising an indication of traffic that is allocated to  
10 the one of the at least one access network element.